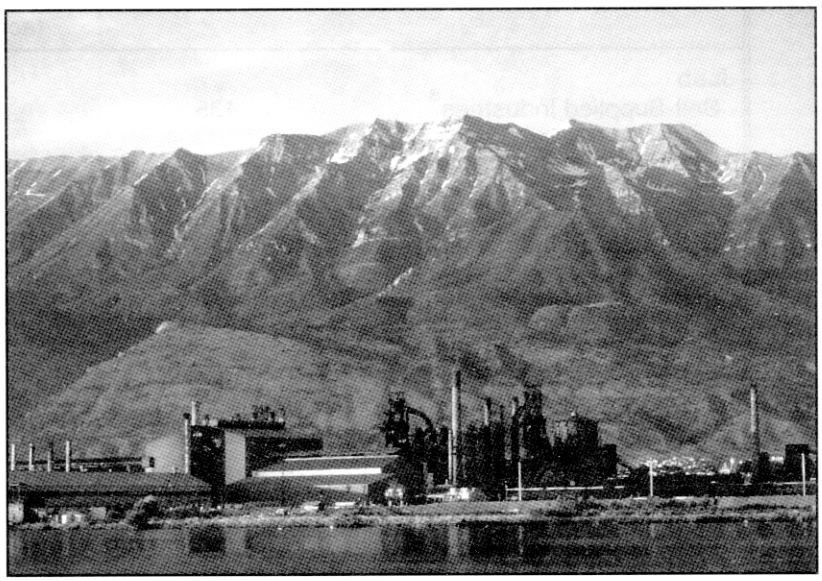
Contents

Industrial Water

The Utah Lake Basin has a growing industrial base. Most of the communities in this basin are actively recruiting clean industries.

18.1 Introduction

This section discusses the present and future uses of water for industrial purposes. In industry as elsewhere, water is the universal solvent, has special thermodynamic properties for temperature control, and plays a biological role as the working fluid for life support. Industry puts water into products, evaporates it for temperature control, and uses it to carry away wastes. Water makes green landscaping possible, adding aesthetic appeal to the working environment in fountains, streams and ponds.



Geneva Steel Company

18.2 Background

Usually, industrial water is distributed through cities' municipal systems. Some large industrial users have developed their own wells and other sources. Micron Technologies is the most recent industrial firm to purchase farmland to get its water supply.

18.3 Current and Projected Industrial Water Use

Steel production, hydroelectric power generation and processing of agricultural, computer and other manufactured products are the major industrial water uses. Much of this water is not consumed, but is returned to the hydrologic system.

18.3.1 Major Water Using Industries

Total industrial use is about 31,940 acre-feet, mostly for steel production at Geneva Steel. Plans for future expansion call for increased amounts, some of which will be provided by recycling. Micron Technologies expects to use 2,000 acre-feet, mostly from its own sources. It will upgrade the quality of this water in its own treatment facility. Current water use by all industries by county is shown in Table 18-1. Table 18-2 shows the amount of industrial water expected to be needed in the year 2020. Projection of industrial water use is based on population growth expected from 1995 to 2020.

18.3.2 Hydroelectric Power Generation

Hydroelectric power generation uses a significant amount of water also. This use does not deplete any water. The Federal Energy Regulatory Commission (FERC) issues licences for hydroelectric projects. Figure 18-1 shows the locations of power plants in the basin. Table 18-3 shows the stream, installed capacity, annual generation, owner and average flow at each plant.

The Deer Creek and Olmsted plants are the major producers with nearly 27 gigawatt hours and 60 gigawatt hours of annual power output respectively. The U.S. Bureau of Reclamation owns the major power

production facilities. Provo River Water Users Association operates the Deer Creek plant. Olmsted plant is operated by Utah Power under contract with the USBR. Strawberry Water Users Association, Utah Power and smaller cities own the rest.

18.3.3 Agricultural Industry

Significant amounts of water have historically been used in agriculture to wash and process orchard crops such as apples and tart cherries. While this continues, some orchards are giving way to residential, commercial and industrial land uses, reducing the demand for industrial water in agriculture. ✣ ✣

Table 18-1
INDUSTRIAL WATER USE

County	Potable	Non-Potable (acre-feet)	Total Industrial
Juab			
Self-Supplied Industries[a]	435	0	435
Public Community Systems	205	0	205
Summit			
Self-Supplied Industries	0	0	0
Public community Systems	0	0	0
Utah			
Self-supplied Industries[b]	6,080	4,240	10,320
Public Community Systems	20,920	0	20,920
Wasatch			
Self-Supplied Industries	0	0	0
Public Community Systems	60	0	60
Total	27,700	4,240	31,940

a Ash Grove Cement West, Inc., North Lily Mining Co.
b Big Three Industrial Gas, General Refractories Co., Geneva Rock Products, Geneva Steel, Ireco, Inc., Lehi Roller Mills, Inc., Pacific States Cast Iron Pipe Co., Trojan Corporation, Deseret Feed Lot, Valley Asphalt Co.

Table 18-2
PROJECTED INDUSTRIAL WATER USE[a]

County	1995 (acre-feet)	2020 (acre-feet)
Juab	640	900
Summit	0	0
Utah	31,240	46,740
Wasatch	60	90
Total	31,940	47,730

a Includes potable and non-potable water use.

Figure 18-1

LOCATION MAP FOR HYDROELECTRIC POWER PLANTS
Utah Lake Basin

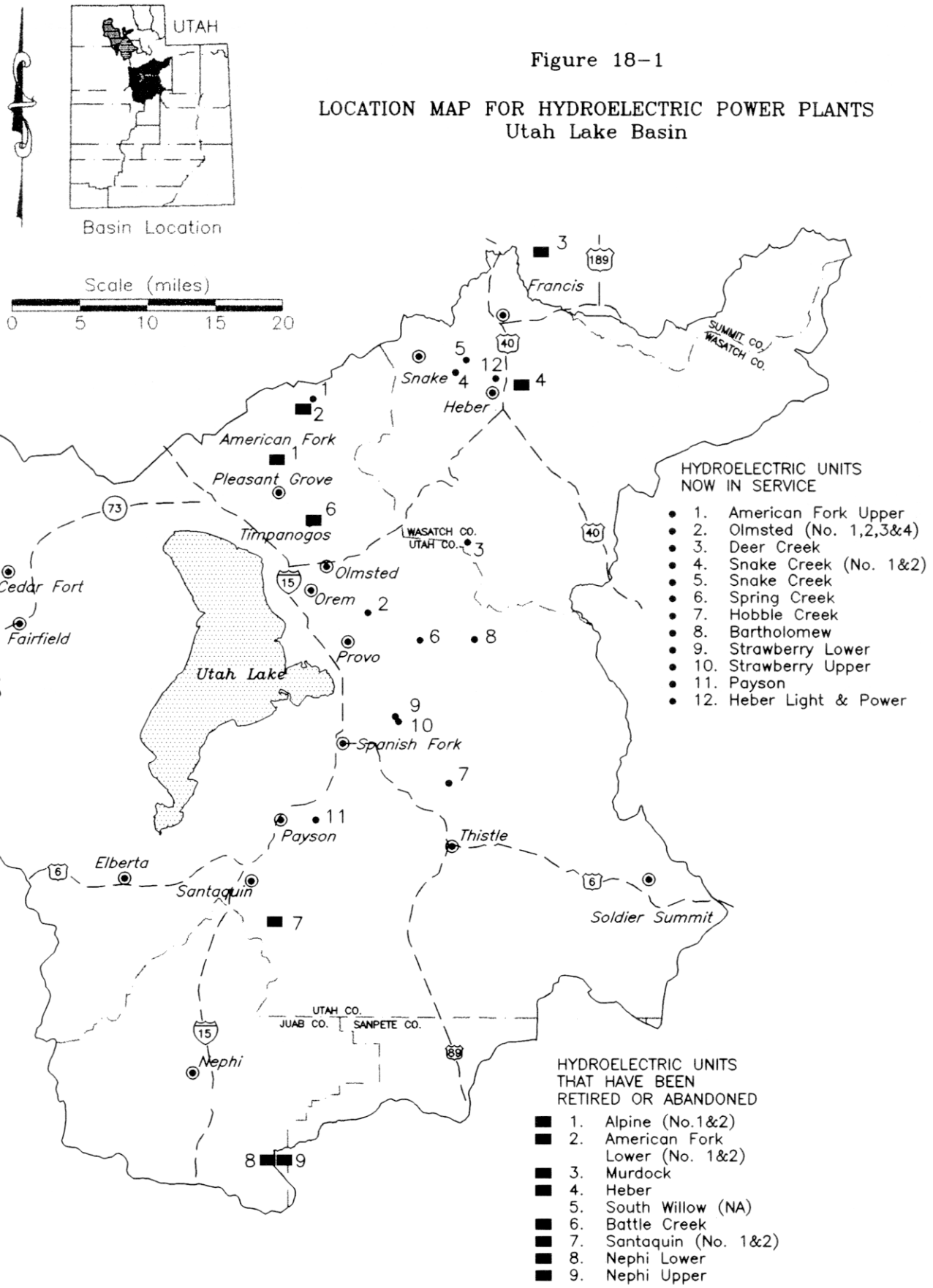


Table 18-3
HYDROELECTRIC POWER PLANTS

Name	Stream	Installed Capacity (MW)	Annual Generation (GWH)	Owner	Average Flow (acre-feet)
American Fork Upper	American Fork	.95	6.50	Utah Power	12,925
Bartholomew	Bartholomew Creek	.05	2.00	Springville	4,000
Deer Creek	Provo	4.95	26.80	USBR[1]	211,700
Hobble Creek	Hobble Creek	.30	1.60	Springville	4,000
Olmsted (1-4)	Provo	12.70	59.30	USBR[1]	NA
Payson	Petentneet Creek	.40	1.90	Strawberry WUA	4,300
Snake Creek	Snake Creek	.08	4.35	Heber L&P	2,210
Snake Creek 1&2	Snake Creek	1.18	3.20	Utah Power	2,540
Spring Creek	Spring Creek	.12	.70	Springville	NA
Strawberry Lower	Spanish Fork	.25	1.10	Strawberry WUA	4,260
Strawberry Upper	Spanish Fork	.90	5.20	Strawberry WUA	118,140
Total		21.88	112.65		364,075

[1] Power marketed by Utah power, Utah Municipal Power Agency and Utah Association of Municipal Power Systems